

E-Learning Experiences through the Global Seminar at the Faculty of Agriculture (University of Firenze)

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Abstract—The present note shows the distance learning testing activity carried out by the Faculty of Agriculture of the University of Firenze starting from 2002 through the Global Seminar, defined as “a consortium of educational institutions concerned with crucial issues for the future of our planet. We believe shared understandings that transcend national boundaries, cultures and backgrounds offer the best hope for a sustainable environment and a safe secure good supply. Fully interactive technology, including live videoconferences and interactive on-line labs, supports intellectual discussions among students, faculty and international leaders” ([1]). From the 2003, the Faculty is offering a module (3 CFU) in English, based on a cycle of three videoconferences with some other foreign Universities, on themes related to tropical agriculture. At the end of the cycle, the students prepare a final paper on the attended module. At the end of each academic year, a feedback questionnaire has been given to students to investigate on the satisfaction degree reached during the formative activity on-line and the effectiveness of the utilized method. The results show a high level of appreciation from students both for the new teaching methodology and for the international idea of teaching, since they feel belonging to a class where students are spread worldwide. The entire group of students assigned a vote of 7 out of 10 to the overall Global Seminar experience, showing that a high level of interest and satisfaction in the participating students has been arisen.

Index Terms—chat on-line, decisional case study, e-learning, videoconference.

INTRODUCTION

Any Educational and Training program (ET), technologically supported, is strongly influenced by the motivation of the participants: learners and teachers. Learning is an individual process involving the active construction of new knowledge starting from the acquired information. Two phases may be distinguished: 1. information transferring from teacher to learner; 2. elaboration and adaptation of the acquired information into new knowledge. It means that information becomes knowledge only if there is a conscious activity, carried out by the learner, represented by the re-elaboration of the acquired contents. The fundamental key is then represented by communication. Clear communication, effective communication tools are necessary pre-requisites for effective collaborative learning. One form of communication is represented by dialogue. Dialogue, refers not only to the interactions between the learner and teacher(s) but also, and mainly, interactions between learners.

New communication technologies (videoconference) are reducing the physical distance among learners, favouring their interchange. The forward step is represented by a pedagogical issue, understanding if the new technology will have a real impact on learning effectiveness. Using videoconferencing for teaching and learning demands an “imaginative leap” from practitioners in higher education [2]. While many can see the benefits of videoconferencing for business meetings, its potential for direct support to student learning is not quite so obvious, and can raise some challenges to traditional ideas of teaching and learning. In particular, videoconferencing provides a facility for sharing teaching and learning in a given discipline, amongst universities, which can increase the learning opportunities for students but challenges the natural possessiveness of academic staff with respect to the progress and development of their students. Some advantages of videoconferencing use may be represented by the possibility of having access to international expertise, sharing cultural understanding and, not least, foreign language improving. It provides a means to lead both students and teachers to a virtual location, discussing as they were in the same room and, moreover, in the same country. Videoconferencing could give students more responsibility for their learning, working in groups and doing tasks. A new framework for the learning activity should be proposed, considering the important role covered by technology. The main components of the framework are: the learning model, described at both cognitive and social levels; the mapping of the utilized technology; the description of institutional and organisational factors which lie outside the model but involve the participants to the videoconference. The learning model can be described as an iterative process of seeking understanding, composed by the active process of producing knowledge, peer interaction and the development of oral explanation skills, exposure to different learning styles and the motivating feedback received from learners. At this purpose, a follow-up phase is fundamental for investigating the quality of the formative action and the impact on the learner, mainly when technology supported education is carried out. In the note, the first results of the follow-up questionnaire, submitted to students participating to the e-learning program through the Global Seminar (GS), carried out at the University of Firenze (Faculty of Agriculture), are presented.

METHODOLOGY AND EVALUATION

The Department of Agricultural and Forest Engineering (today the Department of agricultural and forest economics, engineering, sciences and technologies) of the

University of Firenze (Italy) started the experimentation of distance learning in the 1999-2000 academic year, participating to an European project “*ARIADNE II: Alliance of Remote Instructional Authoring & Distribution Networks for Europe (2nd phase)*”, (ET4001, EU-DG XIII) ([3], [4]). In 2002, the University of Firenze, represented by the Faculty of Agriculture, becomes a member of the Global Seminar Consortium, defined as “*a consortium of educational institutions concerned with crucial issues for the future of our planet. Fully interactive technology supports intellectual discussions among students, faculty and international leaders*”. The Faculty belongs to the Learning Cluster 4, together with Virginia Tech (USA), Hohenheim University (Germany), Universidad Autonoma de Guadalajara (Mexico), Zhejiang University Hangzhou (China). Beginning from the year 2003, the Faculty is offering a 3 CFU module in English, consisting in a cycle of three videoconferences on themes related with tropical agriculture. The preparation activity for each videoconference is represented by a preliminary discussion on the case study; the participation to the chat on-line the week before the videoconference, for answering to the questions posed by the chat moderator; the preparation to the discussion within the videoconference; the participation to the videoconference; the preparation of a summary at the end of the videoconference cycle. In Fig. 1, the Global seminar model is presented. The Global Seminar learning model represents then an innovative instrument of teaching that, through the videoconference technology, allows sharing information among students of different Universities. The participants are all involved in the decisional case study, having the possibility of communicating, playing the role that have been them assigned, each with his expertise to be applied for solving the problem. Cases teach by asking students to analyze problematic situations. Cases do not give information as much as they ask students to evaluate actions and options, thus leading students to higher-level thinking [5]. A fundamental phase in a learning model, based on communication technology, is represented by the evaluation, to assess the effectiveness of the utilized methods, allowing the possibility of making changes for the following year. It also allows to those attending the videoconference to reflect on the new experience. At the end of each of the three cycles of videoconferences (2003-2007), a follow-up questionnaire has been submitted to the students, for assessing the quality of learning and instruction in the web based environment, as suggested by [6]. Summative evaluation is, in this case, more appropriate than formative evaluation since the objective is the verification of the outcomes and the goals of the overall experience [7].

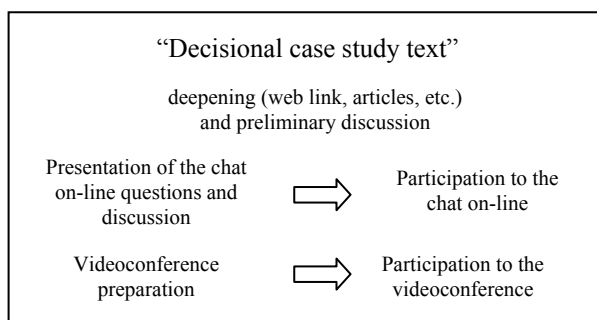


Figure 1. The Global Seminar learning model

The questionnaire included items concerning the overall experience, the use of the case study method, general impression on the participation to videoconferences, acquired incitation and general comments and suggestions (table 1). The results of the questionnaire analysis are presented for the three years together due to the limited number of participants for each year, respectively equal to 9, 10 and 10.

Table 1. Follow-up questionnaire for the Global Seminar module

OVERALL EXPERIENCE	Yes [%]	No [%]	Yes-No* [%]
Do You believe in the potentiality of the GS?	100		
Do You see an added value to the traditional way of teaching?	100		
Would You enjoy some lectures given in such a structure within a traditional course?	100		
Do You believe in such a comparative education?	90	10	
Were the proposed activities consistent with Your objectives?	95		5
Did You experience a global awareness of critical world issues?	100		
Did You interact within Your group?	100		
Did skills in discussion comparison interaction and cooperation have been enhanced?	90		10
CASE STUDY METHOD			
Do You think case study is an effective educational tool?	100		
Did You find the case study a powerful vehicle?	95		5
Did the case study encourage your critical thinking?	95		5
Did the case study enhance Your problem solving skills?	90	5	5
Did the case study generate lively discussion among You?	100		
Did You feel an increase of Your interest in the subject matter?	100		
Did You gain an appreciation for the viewpoints of the different parties involved in the case?	90	5	5
Did You feel the need to make a decision in any case?	85	10	5
Did You find the reference documents enough clear?	90	10	
CONFERENCE IMPRESSION			
Did You learn from the video-conference?	95		5
Did You appreciate interaction with students from abroad?	100		
INCITATION			
Did Your interest in the subject have been stimulated?	100		
Did independent thinking have been enough stimulated?	95		5
Did You experience the “Student centred learning” method?	90	5	5
SUGGESTION			
Are improvements needed?	95	5	
Where or which?	other languages; more time		
Write Your comments or suggestions:	“great experience” cancel the role in the VC		
Give a vote (1:10) to the overall experience through the GS	100 > 7		

* yes-no: the answer is not totally yes or totally not

As regards the questions on the overall experience on the Global Seminar, the results show a wide satisfaction both related with the innovating teaching method and the possibility of sharing experience with students from other University. Case study utilization seems to have been appreciated by students; some suggestions regard the elimination of role assignment to the members participating to the videoconference (decisional case study [8]).

The experience has been positively evaluated, with an overall vote of 7 out 10 by the 100% of the participants. The major obstacle highlighted by students is represented by being fluently with English.

DISCUSSION AND CONCLUSION

The Faculty of Agriculture of the University of Firenze started the experimentation with e-learning in the 1999-'00 academic year, utilizing the ARIADNE platform and from 2003 through the participation to the Global Seminar Consortium. Through the Global Seminar, the Faculty is offering a 3 CFU module in English, based on a cycle of three videoconferences with some other foreign Universities, on themes related to tropical agriculture. Video conferencing has been recognized to have a great potential for learning in Higher Education. The potential lies in creating wide opportunities for dialogue which may facilitate more effective learning than working in isolation. The role of the technology, used for the videoconferencing, remains a crucial point for obtaining good results within the experimentation. It is necessary to understand the limitations and the potential of the technology to be able to evaluate its potential within education. The technologies used to deliver videoconferences currently have a dramatic effect on the quality of the achievable communication. However, the success of videoconferencing may well be dependent on factors other than the technology. These factors are student and tutors attitude to innovation, motivation, adaptation and interaction capacity, etc. It is also highly dependent on the adopted teaching method. The case study teaching method seems to have collected satisfaction from the students. In a learning model, based on communication technology, the evaluation phase is fundamental, for assessing the effectiveness of the utilized methods, allowing the possibility of making adjustments for the following year. The evaluation of the Global Seminar distance learning experimentation, through the questionnaire submitted to the participants, can be

positively considered: the participants recognized the opportunity offered by the videoconference technology to interact in a synchronous way with foreign students. The overall aim seems then to be reached. Suggestions from students should be taken into account for the incoming videoconference cycles.

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Manuscript received 31 March 2010.

Published as submitted by the author(s).